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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,293	03/07/2002	Kazuhiko Mori	505-967P	2670
2292	7590	11/28/2005	EXAMINER	
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FALLS CHURCH, VA 22040-0747			ART UNIT	PAPER NUMBER
			2675	

DATE MAILED: 11/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/092,293	MORI ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Alexander S. Beck	2675

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS,  
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 16 September 2005.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-18 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) 10-18 is/are allowed.  
 6) Claim(s) 1-6 and 8 is/are rejected.  
 7) Claim(s) 7 and 9 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 10 June 2002 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>08/01/2005</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Response to Amendment***

1. Acknowledgement is made of the amendment filed by the Applicant on 09/16/2005, in which: Claims 1,10 and 16 were amended; and the rejections of Claims 1-6,8 and 10-18 were traversed. **Claims 1-18 are currently pending in U.S. Application Serial No. 10/092,293**, and an Office Action on the merits follows.

### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) filed on 08/01/2005 has been acknowledged and considered by the Examiner. An initialed copy of the PTO-1449 is included in this correspondence.

### ***Claim Rejections - 35 USC § 112***

3. The rejection of Claims 10-18, set forth in paragraphs 3 and 4 of the previous Office Action (i.e., the non-final Office Action mailed on 06/16/2005), is withdrawn in light of the Applicant's amendment to independent Claim 10.

The amendment to Claim 10 is acknowledged and approved by the Examiner.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. **Claims 1,2 and 4-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Kumagai et al.* (US 4,556,877, hereinafter “Kumagai”) in view of *Hiraide* (JP 07-270756 A, hereinafter “Hiraide”).

As to independent **Claim 1**, Kumagai teaches/suggests Kumagai discloses a liquid crystal display for a vehicle in **FIG. 4** comprising: a liquid crystal display panel **9**; a circuit board **19** for mounting circuit elements **20** including a liquid crystal driver **20**; a temperature sensor **22** mounted on the circuit board; and a control circuit **20**, mounted on the circuit board, for controlling liquid crystal drive voltage based on an ambient temperature detected by the temperature sensor, the liquid crystal display panel and the circuit board being placed one upon the other in a meter housing **23** having a substantially closed space therein with a predetermined space there between (Kumagai: col. 2, line 30 – col. 3, line 13).

Kumagai does not disclose expressly wherein the display further comprises a heat collection panel dividing an inside space of the meter housing.

Hiraide teaches/suggests a liquid crystal display in **Drawing 1 (A)** and **(B)** comprising a heat collection panel **5** exposed to surround a screen of the liquid crystal display panel **6**, the

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heat collection panel divides an inside space of a housing 1 where a temperature sensor 12 and the liquid crystal display are mounted, and causes the ambient temperature of the temperature sensor 12 to follow a temperature change of the liquid crystal display panel 6 (Hiraide: abstract; paragraphs [0007,0008] of English translation).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the liquid crystal display of Kumagai such that a heat collection panel was provided to divide an inside space of the housing where the temperature sensor and liquid crystal display were mounted, as taught/suggested by Hiraide.

The suggestion/motivation for doing so would have been to substantially prevent a change in the temperature difference between a temperature sensor for temperature detection and a liquid crystal display panel (Hiraide: abstract).

As to **Claim 2**, note the above discussion with respect to Claim 1.

Neither Kumagai nor Hiraide disclose expressly wherein a heat collection panel is mounted to the liquid crystal display panel through an adiabatic member.

Hiraide teaches/suggests in **Drawing 1** (A) and (B) covering the temperature sensor 12 and a portion of the liquid crystal display panel 6 with a heat insulating adiabatic member 21 (Hiraide: abstract; paragraphs [0007,0008] of English translation).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to further modify the liquid crystal display of Kumagai and Hiraide by providing a heat insulating adiabatic member to cover the temperature sensor and liquid crystal display panel as taught/suggested by Hiraide, such that the heat insulating adiabatic member covered the entire length/width of the non-display area of the liquid crystal display, resulting in the heat

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collection panel 5 mounted to the liquid crystal display panel through the heat insulating adiabatic member.

The suggestion/motivation for doing so would have been to reduce a temperature gradient of the temperature sensor and liquid crystal display panel (Hiraide: abstract; paragraphs [0007,0008] of English translation).

As to **Claim 4**, Kumagai teaches/suggests the liquid crystal display for a vehicle according wherein the temperature sensor is a thermistor (Kumagai: col. 2, line 30 – col. 3, line 13).

As to **Claim 5**, Kumagai teaches/suggests the liquid crystal display for a vehicle, wherein the liquid crystal display is held in place by a liquid crystal holder 21, the liquid crystal holder being separated from the circuit board by the predetermined space, and held upright on the circuit board by leg portions extending downward from of the liquid crystal display holder to the circuit board (Kumagai: col. 2, line 30 – col. 3, line 13).

As to **Claim 6**, Kumagai teaches/suggests the liquid crystal display for a vehicle wherein the liquid crystal display panel and the circuit board are parallel to one another. (Kumagai: col. 2, line 30 – col. 3, line 13).

6. **Claims 3 and 8** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Kumagai et al.* (US 4,556,877) and *Hiraide* (JP 07-270756 A) as applied to Claims 1,2 and 4-6 above, and further in view of *Santis* (US 4,464,933, hereinafter “*Santis*”).

As to **Claim 3**, note the above discussion with respect to Claim 1.

Neither Kumagai nor Hiraide disclose expressly wherein the circuit board is inclined when the liquid crystal display for vehicle is properly mounted to a vehicle and the temperature sensor is installed at a high position above the inclined circuit board.

Santis teaches/suggests in **FIG. 1** an instrument console panel **78** in that is inclined when properly mounted to a vehicle (Santis: col. 3, lines 52-63).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to further modify the liquid crystal display of Kumagai and Hiraide, such that it is inclined when properly mounted to a vehicle, as taught by Santis. As can be seen from **FIG. 4** of Kumagai, when inclining the circuit board **19**, the temperature sensor **22** is installed at a high position above the inclined circuit board.

The suggestion/motivation for doing so would have been for providing a simplified view of the display in the event that the steering wheel position is inclined (Santis: col. 3, lines 52-63).

As to **Claim 8**, note the above discussion of Kumagai, Hiraide and Santis pertaining to the limitations of Claims 1 and 3. Kumagai discloses the liquid crystal display for a vehicle in **FIG. 4** wherein the temperature sensor **22** is installed at a high position in the predetermined space between the meter housing **23** and the circuit board **19** (Kumagai: col 2, In 30 – col 3, In 13).

***Allowable Subject Matter***

7. **Claims 10-18** are allowed.

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8. **Claims 7 and 9** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

See previous Office Action for Examiner's statement of reasons for allowance and indicating allowable subject matter.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

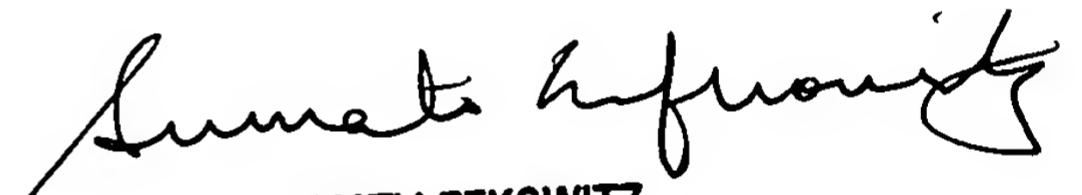
Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Alexander S. Beck** whose telephone number is (571) 272-7765. The examiner can normally be reached on M-F, 8AM-5PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Sumati Lefkowitz** can be reached on **(571) 272-3638**. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

asb

  
SUMATI LEFKOWITZ  
SUPERVISORY PATENT EXAMINER